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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,801	12/29/1999	KAORU ADACHI	378-366P	2763

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 05/21/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/474,801

Applicant(s)

ADACHI, KAORU

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections 35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al.(USPN 5585817) in view of Ichikawa et al. (USPN 6127998) and Arakawa et al. (USPN 5500675).

Regarding claims 1, 4, 8 and 10, Itoh teaches an image input/output apparatus including an image input section (20), and an image display section (10) arranged in a matrix form. The input section includes a photo detective portion (109) which receives light and convert it into an electrical signal. See column 4, lines 9-12, 39-42, and Fig 1. Itoh teaches the photo detective portion with respect to parallel blocks, 109', and 109'' and output voltage V(out1) , and V(out2). See column 6, lines 17-24 and Fig 5. Furthermore, Itoh teaches the V(out) as it relates to the display section including a transparent electrode (105) , a thin film transistor (101), and gate electrodes. See Fig 2. Itoh teaches the supplying of electric signal to a scanning circuit. See column 1, lines 52-55. However, Itoh does not teach transfer path, output circuits that output signals from the vertical travel path in parallel column by column, and input circuits receiving signals from imaging section in parallel column by column. Itoh also does not disclose about

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parallel to serial and serial to parallel conversions. Ichikawa on the other hand teaches a light receiving portion (801), an LED displaying portion (803), a key matrix inputting portion (803) for adjustment, and a main board (453) from which an output is subjected to serial-parallel conversion. See col. 21, lines 32-67 and Fig 23. Ichikawa further teaches signal transfer switch (327) which can be opened and closed according to the pulse from the shift register (321). See Fig 17.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Itoh's imaging-displaying system to include Ichikawa's matrix inputting adjustment method based on the main board along with serial-parallel conversion mechanism. One would have been motivated in view of the suggestion in Ichikawa that the matrix inputting adjustment method in conjunction with serial-parallel conversion mechanism is functionally equivalent to the desired input and output circuits configurations. The use of matrix inputting adjustment and serial-parallel conversion mechanism helps function liquid crystal display as taught by Ichikawa.

Itoh has been described above. However, Itoh does not teach vertical transfer paths such that signals are transferred in parallel column by column. Arkawa on the other hand teaches vertical transfer paths (31, 32) in connection to the vertical transfer paths (3) which are formed between two adjacent vertical photosensitive pixels columns each of which is arranged in vertical direction. See Fig 1 and col. 4, lines 45-63.

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Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Ito's Itoh's image input/output system to adapt Arkawa's vertical transfer paths as used in Fig 1. One would have been motivated in view of the suggestion in Arkawa that the configuration of vertical transfer paths (31, 32) is functionally equivalent to the desired vertical transfer paths with the signals being transferred column by column. The use of vertical transfer paths helps function an image sensing apparatus as taught by Arakawa et al.

Regarding claim 3, Itoh teaches about LCD. See column 4, lines 10-12.

Regarding claims 2 and 5-6, Ichikawa teaches an LCD element with respect to the use of charge holding capacitors of reflecting electrodes (312). See col. 14, lines 8-17, and Fig 16.

Regarding claims 7, 9 and 11, it has been discussed above.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following arts are cited for further reference.

U.S. Patent No. 4,878,121 to Hyncek

U.S. Patent No. 5,001,672 to Ebberts et al.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to :

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 Customer Service Office whose telephone number is (703) 306-0377.


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Abbas Abdulsalam
Examiner
Art Unit 2674